

MR. WILLIAM DOHERTY'S BIRD-COLLECTIONS FROM CELEBES.

BY ERNST HARTERT.

INTRODUCTION.

AFTER his most successful trips to Java, Bali, Lombok, Sambawa, and Sumba, of which a short account is given and the birds enumerated in the last number of this journal, Doherty left the Sunda Islands for Celebes. The ornithological results from Celebes are, of course, less important than those from the Lesser Sunda Islands, as Celebes is, for the most part, much better known than those islands: but the birds are, nevertheless, of much interest.

Doherty first went up to Bonthain Peak. He says of the birds from there: "About half of them came from Bukampaliang or Kampaliang, about 5000 feet high, above Lokka, which is above Bonthain (Bantaing), high up on the 'Bawa Karaing,' as the peak is there called. They were taken in four days. We did not make a long stay at Bonthain, but immediately started up the hill with packhorses, the Raja superintending. As early as eight o'clock in the morning (butterflies are rarely out till at least nine, as you know) we got some good butterflies—a ♂ of an *Lias* new to me, though I think I have seen it mentioned somewhere, a ♀ of the very rare *Ergolis merionoides*, and several of *Nyctitona diene* and *Appias ithome*, of which we had only got one in the Makassar country. The vegetation was astonishingly different from that at the north of Makassar—rather poor—and we had seen very fine forest three miles from Bonthain. So, finding insects very scarce in the high country, we, in our disappointment, returned too soon to Bonthain town, and spent half of our short trip near that place, where we found none of the fine things we expected."

The shortness of the Bonthain trip, and the very short stay in the higher altitudes, were the reasons that the Bonthain birds are of comparatively little interest; and as Everett and the Sarasins had collected there before, they are all species already known to occur there. Nevertheless I thought it would be worth while to give a complete list, as we know so little of the exact distribution of Celebes birds in higher altitudes, as some of the species call forth certain remarks, and especially as most of them have good details on the labels.

There is then a small collection from the low country north of Makassar, which, though small and for the greater part consisting of common birds, contains great rarities, as a skin of a young *male* of *Phlegoenas bimaculata* Salvad., the *female* of *Monachalcyon capucinus* Mey. & Wigl., only known from the type, a *male*, and a pair of *Siphia rufigula*, which was of special interest to us.

After a short stay at Makassar, that great emporium of the easternmost trade in the Dutch West Indies, Doherty proceeded to Palos Bay, in the middle of the west coast of Celebes, where he collected for a short time, unfortunately under very difficult and hindering circumstances.

The following passages from a letter dated Ternate, September 27th, 1896, and written during a bad attack of remittent fever—in a temperature of from 95° to 110° Fabr.—refer to this expedition, and may be of interest, if only to show that

collecting in the East, although one of the most fascinating occupations of a naturalist, is not always like wandering on paths strewn with roses:—

“ I send three tins of butterflies and five of birds from Palos Bay. They are partly taken south or south-west of the bay, at *Dongala*, and partly north of the entrance of the bay, at *Tawaya*, all being from low country up to 2500 feet, my desperate attempts to reach high country on *Mount Loli*, and again on *Mount Tumba* (or *Toba*), just failing by a hair's breadth. We had a very bad time. My idea was to reach the neck of the isthmus between *Tawacli* and *Parigi*, where, at a height of 3000 feet or more, I might have made interesting collections. Usually, I think, there would have been no great difficulty in attempting this; but just as I came to the port of *Dongala* war broke out. The *Tawacli* people burnt *Kayu Maluwa*; the fugitives fled partly to *Tawaya* (north), partly to *Palu* (*Palos*) (south). The people of *Dongala* guarded their houses night and day with guns in their hands, and no praus for love or money would venture to go out. I went over to *Tawacli*, on the south coast of the bay, and got some butterflies, including a curious form of *Cethosia myrina* (at 2500 feet), and tried to reach *Mount Loli*, about 8000 feet high, but the *Raja* interfered. The western side of the mountain, all forest, belongs to the Sultan of *Palos*, and it is impossible to go there without going to *Palos* for permission, which was impossible during the war. The eastern side close to *Palos* belongs to the Sultan of *Benawa*, the greatest of all these chiefs, and my very good friend. Unfortunately, however, this side is absolutely bare up to 5000 or 6000 feet—a remarkable thing for a place so near the equator—and quite uninhabited. The Sultan of *Benawa* advised me to try *Tawaya*, which he said belonged to him. As a matter of fact the *Tawayans* had some years ago kidnapped his son and held him as a hostage, doing just what they liked. The dear little boy afterwards often came to see me at *Tawaya*, with a large armed guard. Finally I got, at great expense, a prau to take me to *Tawaya*. The passage was fearful. We were nearly swamped, lost an outrigger, and thought we were lost, when suddenly, by amazing luck, the wind changed and the sea went down, enabling us to reach the shore. The men, who were in fear of pirates all the way over, put my things ashore a long way from the village, and fled for their lives. I left my men, all armed, in charge of the things, and went only with my butterfly-net to *Tawaya*. On arriving at the place I was mobbed at once, the people, who speak only *Kaili*, not *Malay*, supposing that their town was to be attacked, and they tried to kill me, one young man from *Kayu Maluwa* actually wounding me in the breast, though but slightly, because the old men caught hold of his arms. By great good fortune an old *Buginese*, *Haji Abdul Fatha*, who has been three times to *Mecca*, but was nevertheless a good man, came just in time, and after I had given him the signet-ring of his son *Nazir* at *Dongala*, whom I knew well, but who had been afraid to accompany us, he explained everything, and our troubles were over for this time. The *Tawaya* people, however, remained sullen and hostile for some days. The neighbouring villages were deserted, the people having taken to the woods; and though the *Raja's* sons often came to see me, he himself never came near his capital during my stay. What he was afraid of I cannot say. I soon got on friendly terms with the *Alfuro* (*Toraja* they say in *Celebes*), or heathen people of *Tumba*; and as *Tawaya* was utterly parched up and dry, I did my best to go to *Tumba*, and twice got coolies, and twice they ran away. The third time they came and were ready to take us to *Tumba* (fully 4000 feet high, I think, on a mountain which is about 7000), but that day there were three of us down with fever, and a

few days later we had to go back to Dongala to catch the steamer. If I had stayed I could easily have reached Tumba and got many good things, but considering what the Sarasins have done in Celebes, I hated to waste time that might be better spent in other islands.*

"The country near Palos Bay was actually drier than Makassar, while in Toli Toli (Tontoli), only 200 miles beyond, the climate is like that of Singapore—rain every day, and a pleasant flora, I hear, like that of the Minahassa. Though now the steamers stop at Dongala—formerly a little rendezvous of Buginese pirates—nobody at Makassar knew anything about the place. That is the trouble of going to new places !

The insects and birds seem to be a mixture of the well-known Menado and Makassar forms. . . ."

I shall give a complete list of the birds from north and south of Palos Bay, as it will be not without value for the knowledge of the exact distribution of the Celebes birds.

1. BIRDS COLLECTED IN AUGUST 1896 ON BONTHAIN PEAK.

1. *Merula celebensis* Büttik.—♂ ♀, 6000 to 7000 feet. "Iris dark brown; feet ochreous brown; bill orange-ochraceous, duller above."
2. *Pratincola caprata* (L.).—From the lower hills to 6000 feet. "Iris of ♂ chestnut."
3. *Phyllergates riedeli* Mey. & Wigl.—♂ ♀, 3000 and 6000 feet. "Iris ♂ pale amber, ♀ greyish brown; feet pale brown or olive-brown; maxilla blackish; mandible reddish ochreous." The young *male* is coloured like the adult *female*.
4. *Cisticola cisticola* (Temm.).—♂, 5000 feet. "Iris pale brown; feet pale brown; bill blackish; mandible pale, except on tip."
5. *Trichostoma finschi* Wald.—Only met with in the low country. "Iris pale red-brown; feet pale purplish; maxilla blackish; mandible bluish horn-colour."
6. *Androphilus everetti* Hartert.—♀, 6000 to 7000 feet. Wing 58.2 mm. "Feet dark fuscous; bill nearly black."
7. *Acemonorhynchus aurcolimbatus* (Wall.).—Only met with in the low country at the foot of Bonthain Peak. "Iris red-brown; bill and feet black."
8. *Dicaeum celebesum* Müll. & Schleg.—Low country and 1000 feet. "Iris of ♂ ad. dark brown; bill and feet black." One young *female* from 4000 feet seems to belong to this species, though I am not quite sure about it. "Its iris is deep brown; feet blackish; maxilla black; mandible at base and gape dull orange." This specimen is not *D. nehrkorni*, as the bill is too stout for that species, though in colour it is like young specimens of it.
9. *D. nehrkorni* W. Blas.—4000 to 6000 feet.
10. *Cinnyris frenata dissentiens* Hartert.—Both sexes and pulli from the lower hills up to 6000 feet. "Iris deep brown; feet and beak black."

* We are sorry to say that we cannot agree with our friend's calculation. The Sarasins were neither specialists in ornithology nor in entomology, and collecting birds and lepidoptera was by no means their principal object during their travels in Celebes. A longer stay in the higher country of Tumba (or Tuba) would no doubt have been of some use for Mr. Doherty. Only a longer stay can result in really good collections, unless totally unknown islands are visited, whence everything is of interest, and such are rare now; and even there a too much hurried stay is regrettable. E. H.

After once more reading Professor Blasius' discussion on "*Cyrtostomus frenatus* (S. Müll.) var. nov. *Plateni*" in *Zeitschr. f. ges. Ornith.* II. pp. 289-291, and comparing the figures on Plate XII. with my birds from Bonthain Peak, it became to me very doubtful whether it would be possible to separate the form of the Bonthain Peak from that of Makassar. When I named my *dissentiens* I compared it with a good series of North Celebes specimens, which were named by Dr. A. B. Meyer, who no doubt has of all ornithologists the greatest knowledge of the Celebensian avifanna, *C. frenata plateni*. So it came that I took them to be typical *plateni*, nor had I any special reason to doubt the correctness of this view, as Professor Blasius had bestowed the name *plateni* on southern as well as on northern examples. Professor Blasius now has been kind enough to lend me his type of *C. frenata plateni*, which, as his article clearly shows, is the South Celebes bird, with which, however, he united the North Celebes birds, although stating some slight differences. I find now, from a study of Blasius' type and one *male* from Makassar in the British Museum, that the Makassar birds are quite unlike the Minalhassa form, being much paler yellow below, and more olive with very little of a green tinge above. Nevertheless they are not exactly like our birds from Bonthain Peak, but still a little darker below, and with a slight greenish tinge above, while my Bonthain form has *none at all*. Therefore it would be most desirable to compare a *series* of Makassar birds with those from Bonthain, of which I have a good material before me now, to finally decide whether the Bonthain birds are constantly different from those of Makassar; but at present I must suppose, and I believe that this will be found to be quite right, that there are three forms in Celebes:—

- (1) A bird with dark yellow under parts and greenish upperside, inhabiting Northern Celebes.
- (2) A bird with paler underside, darker olive-brown and much less greenish upperside, found in the low country in South Celebes.
- (3) A bird with still paler underside and still less greenish deep olive-brown upperside, known to occur on the Bonthain Peak.

The first of these three, which is *undoubtedly* different from No. 2, has no name, and I wish to name it

***Cinnyris frenata meyeri* subsp. nov.**

in honour of Dr. A. B. Meyer.

No. 2 is *C. frenata plateni* (W. Blas.), sensu strictiore.

No. 3, if different from No. 2, is *C. frenata dissentiens* Hart.

C. f. meyeri is the nearest form of the three to *C. frenata frenata*.

To make matters still more interesting, though more complicated again, I am enabled, with my good series of Bonthain birds for comparison, to state that the difference between the latter and those from Saleyer, viz. the still paler underside of the Saleyer form, is well marked and apparently constant, and therefore I cannot hesitate any longer to distinguish it as

***Cinnyris frenata saleyerensis* subsp. nov.**

Cinnyris formae C. frenata dissentiens dictae persimilis, sed subtus valde pallidior.

Hab. Insula Saleyer dicta.

Typus in Museo Rothschildiano asservatur.

11. *Cinnyris porphyrolacma* (Wall.).—Low country only.
12. *Myzomela chloroptera* Walden.—4000 to 6000 feet.
13. *Melilestes celebensis meridionalis* Mey. & Wigl.—♂, 6000 feet. “Bill black: feet dark brown; soles dull ochreous.”
14. *Zosterops anomala* Mey. & Wigl.—This interesting species, which truly deserves the name *anomala*, was found at 3000 and 4000 feet. The “iris is pale brown; the feet pale bluish grey; beak black; base of mandible pale.”
15. *Z. sarasinorum* Mey. & Wigl.—Two *males* from 5000 feet. As remarked before, in my article on the birds collected on Bonthain Peak by Mr. Everett, I have not seen *Z. sarasinorum* from North Celebes, but Dr. A. B. Meyer has been good enough to compare some of my Bonthain Peak skins with his *Z. sarasinorum*, and declares them to be the same. The authors, when describing this species, did not compare it with its nearest ally at all, nor did I when I first mentioned it, as I had no specimens of *Z. citrinella*. Now, comparing *Z. sarasinorum* with *Z. citrinella*, I find that they are very similar to each other, in fact so much that they might be merely subspecies. *Z. citrinella*, however, is a little larger, with longer wing and beak, and has the sides of the breast and abdomen more strongly washed with greyish brown, and the middle of the breast and abdomen is lighter and more washed with pale yellow in *Z. sarasinorum*. *Z. palpebrosa* and allies differ at a glance in the *grey* sides of breast and abdomen.
16. *Z. intermedia* Wall.—In the lower parts and at about 3000 feet. “Iris pale sepia; feet pale bluish grey; maxilla deep brown; mandible pale corneous.” Specimens from the Lesser Sunda Islands, as said before in this journal, are mostly distinctly larger, with slightly larger beaks, and it might be possible to separate them subspecifically from *Z. intermedia* of Celebes.
17. *Z. squamiceps* (Hartert).—I greatly doubt now, the more I see of *Chlorocharis emiliae* and my *Chl. squamiceps*, that either of them can with satisfaction be separated from the genus *Zosterops*, as long as *Orcozosterops* and other aberrant forms are united with it, which I do not wish to separate (see Nov. Zool. III. pp. 70, 153). Also my *Lophozosterops dohertyi* (Nov. Zool. III. p. 568) is most closely allied to these large aberrant forms of *Zosterops*, but the elongated head-feathers, forming a conspicuous crown in both sexes, may warrant its generic separation. The beak of *Lophozosterops*, too, is rather strong and stout for a *Zosterops*. *Z. squamiceps* (Hart.) was found to be common in heights of about 5000 and 6000 feet above the sea. “The iris is dark chestnut or dark brown; feet dark bluish grey, soles ochreous; beak black.”
18. *Munia molucca* (L.).—Met with in the low country only. Celebes examples are not, I think, separable from *M. molucca typica*, while *some* of the Saleyer and Kalao specimens approach the *M. molucca propinqua* of the Lesser Sunda Islands. This latter subspecies is indeed very little differentiated, but I quite agree with Mr. Sharpe that it deserves a name. *Systematic work is scientific only if it is exact*; if not it is either useless, or doing harm instead of good.
19. *Artamus monachus* Bp.—One ♂, shot at 6000 feet above the sea. Quite like specimens from North Celebes. “Iris deep red-brown; feet and claws

blackish, powdered with white; beak pale blue, tip and fore-part of commissure blackish."

20. *Calornis minor* Bp.—At 4000 feet.
21. *Oriolus celebensis meridionalis* Hart.—Low country.
22. *Streptocitta albicollis* (Vieill.).—3000 feet.
23. *Pachycephala bonthaina* (Mey. & Wigl.).—Met with from 6000 to 7000 feet. "Iris scarlet; bill black; feet blackish." (Nov. Zool. III. p. 155.)
24. *P. meridionalis* Büttik.—3000 to 6000 feet high. "Iris deep chestnut-brown; feet dark purplish, claws black; beak black."
25. *Graucalus leucopygius* Bp.—♀ shot at 500 feet on the foot of the Peak. "Iris yellowish white; feet and beak black." Wing 153 mm.
26. *Lalage timoriensis* (S. Müll.).—One ♂ from the foot of Bonthain Peak. "Iris deep chestnut; feet blackish; beak black."
27. *Muscicapula westermanni* Sharpe.—A ♀ ad. and a ♂ juv. from about 6000 feet. ♀. "Iris grey; feet blackish; beak black."
28. *Muscicapula hyperythra* (Blyth).—♂, 6000 feet. Wing 65 mm.!
29. *Siphia omissa* Hartert (Nov. Zool. III. p. 71).—Three adult *males* and a young *male* from 4000 and 6000 feet. They bear out my former conclusions as to the distinctness of the Celebes form, although the *males* are not so easy to distinguish. It may be considered by some as merely a subspecies of *S. banyumas*. ♂ ad. "Feet pale purplish; bill black." ♂ juv. "Feet pale reddish." Wings of adult *males*: 78—81 mm.
30. *Siphia bonthaina* Hartert.—One specimen, marked ♂, from 6000 feet. It fully agrees with the type, described Nov. Zool. III. p. 157. "Iris deep chestnut; feet slaty grey, soles pale reddish; bill black." Wing 66 mm.; tail 49; culm. 13.5; tars. 19.
31. *Gerygone fluceola* Cab.—One ♀, 6000 feet. "Iris reddish chestnut; feet and beak blackish." Wing 54.9 mm.
32. *Hypothymis pulla* (Wall.).—From the foot of Bonthain Peak. ♂. "Iris dark chestnut."
33. *Rhipidura teysmanni* Büttik.—Two *females* from 3000 and 5000 feet. "Iris very dark chestnut-brown; feet pale purplish; beak blackish, pale at base of mandible."
34. *Culicicapa helianthea* Wall.—Met with at 6000 feet. "Feet pale reddish brown, blackish in front; beak blackish above, reddish below."
35. *Cryptolopha sarasinorum* Mey. & Wigl.—In heights of 4000, 5000, and 6000 feet. "Iris dark chestnut; feet slaty grey, soles ochreous; beak deep blackish brown, base of mandible paler." Wing 54—56 mm. Sexes alike in colour and size.
36. *Stoparola meridionalis* Büttik.—A series from 5000 to 6000 feet. "Iris deep chestnut; feet black; beak black."
37. *Haleyon chloris* (Bodd.).—A ♂ from the foot of the mountain, very blue everywhere above; wing 112 mm. Two ♀♀ from 4000 feet, much more greenish above; wings 110 and 112 mm. "Iris deep chestnut."
38. *Microstictus wallucei* (Tweedd.).—On the foot of the Peak. ♂♀. "Iris very pale canary-yellow; feet dull bluish with some sordid brownish scales, claws bluish horn-colour; bill black."
39. *Iynxipicus temmincki* (Mall.).—Two *males* from 4000 feet. "Iris dull crimson; feet dirty olive-green, claws pale brownish grey."

40. *Eurystomus orientalis* L.—A female, more like *E. orientalis orientalis* than *E. orientalis australis*, but not quite typical, from the low country of Bonthain.
41. *Trichoglossus ornatus* (L.).—♂ and ♀. not differing from each other, from 3000 and 5000 feet. “Iris salmon-colour; feet dull greenish, claws pale grey-brown; beak orange.”
42. *Ninox punctulata* Quoy & Gaim.—Two females from the foot of the mountain. “Iris deep chestnut.” No bars above, only whitish spots, but these inclined to be bar-like in one. This latter specimen has also one pure white feather on the crown.
43. *Spilornis rufipectus* Gould.—At 4000 feet. ♀ not quite ad. “Iris ochreous; feet deep ochreous orange.”
44. *Spilospizias trinotatus haesitandus* Hart.—One ♀ juv., one ♀ ad., Bonthain, 1000 and 4000 feet. I am not aware that the young bird of the southern form differs from that of *Sp. trinotatus trinotatus*, and the adult female sent by Doherty does not show the characters of *haesitandus* very well, which is after all a poor subspecies.
45. *Tinnunculus moluccensis occidentalis* Mey. & Wigl.—Three specimens from 6000 feet.
46. *Malia grata* Schleg. Three skins from 6000 feet. “Iris two shades of brown, separated by a black line; feet and claws dull ochreous brown; beak blackish, commissure and mandible dull ochreous.” One evidently younger bird is much duller below, the under tail-coverts brownish.

II. ON SOME BIRDS COLLECTED IN LOW COUNTRY NORTH OF MAKASSAR IN JULY 1896.

Among half a hundred birdskins collected there are only a few which require mention here, the majority belonging to very well known common species.

1. *Trichostoma finschi* Wald.—This species outnumbered all others sent; it must therefore have been very common near Makassar.
2. *Siphia rufigula* (Wald.).—An adult male and an evidently adult female, without any details on the labels. The male agrees with the description. The wing measures 64 mm. The female closely resembles *Siphia bonthaina*, but differs in the following points:—
 - (1) The wing is decidedly shorter, measuring only 57 mm.
 - (2) The upperside is not brownish olive, but ashy, with a faint brown tinge. The edges to the wing-quills are paler and not so rufous.
 - (3) The rectrices and upper tail-coverts are not so chestnut rufous, but duller. The tail does not show any rufous colour at all from below, while in *S. bonthaina* it is distinctly so even from below.
 - (4) The tarsus is much shorter: 16 mm. (19 to 20 in *S. bonthaina*).
3. *Oriolus celebensis meridionalis* Hart.—Three skins, beautifully showing the characters of this very well pronounced southern form.
4. *Streptocitta albicollis* (Vieill.).—Several skins from the Chamba-Maros country north of Makassar. Doherty says that “this bird seems to be a mimic of *Gazzola typica*, the two looking very much alike at a distance.” It must

be admitted that the distribution of the colours in these two birds is strikingly similar, but why should one mimic the other?

5. *Gazzola typica* Bp.—This interesting little crow, which is still rare in collections, and of which we know hardly anything but a few skins in collections, is said by Doherty to be common enough north of Makassar and on Bonthain Peak, although he sent us only one *male*.
6. *Alceao ispida moluccana* (Less.).—This is the proper nomenclature of this form, which is generally called *A. moluccensis* or *A. ispidoides*. It is connected with *A. ispida bengalensis* by intermediate forms. Doherty sent three skins from Makassar. “Iris very deep brown; feet bright orange, claws blackish.” Celebes specimens resemble entirely the typical Moluccan form.
7. *Monachalcyon capucinus* Mey. & Wigl.—*M.c.*, Meyer & Wiglesworth in *Abh. und Ber. Mus. Dresden*, 1896-97, No. 2, p. 12 (1896). The authors described their species from one example, evidently an adult *male*, from Tonkean in the Eastern Peninsula of Celebes. It is therefore of remarkable interest that the same species should now turn up near Makassar. Not being quite sure about the identity of the bird, I sent it to Mr. Wiglesworth, who kindly compared it with the type in the Dresden Museum, and he found that the differences between it and the type are just the same as those between the sexes of *M. monachus*. Of course *males* from Makassar and *females* from Tonkean are still desirable for future investigations.* In our bird the crown is greenish black: a superciliary line, a few feathers on the forehead, all the under parts (except the chin and throat, which are rufous white) and under wing-coverts are rusty ochraceous; the sides of the head and neck mixed blackish green and ochraceous; upperside dull green, with a brownish rusty tinge. Beak bright orange; iris brownish grey; feet orange-brown. Beak 48 mm.: wing 147; tail 120; tarsi 19.
8. *Phlegocnas bimaculata* Salvad.—An immature *male* of this rare bird was shot in low country near Makassar. The purple-violet spots on the sides of the upper nape are not developed, but just indicated; the breast has some brown feathers edged with rust-colour; the upper wing-coverts have rusty edges. “Iris deep chestnut; feet reddish; beak dull blackish.”
9. *Chalcophaps stephani* Rehb.—From the neighbourhood of Makassar. The distribution of this species is very peculiar.
10. *Carpophaga paulina* (Temm.).—From Makassar. Exactly like specimens from North Celebes.
11. *Phoenicophaes calorhynchus meridionalis* Mey. & Wigl.—Several skins from Makassar are distinctly this subspecies.
12. *Pyrhoecentor celebensis rufescens* Mey. & Wigl.—Two skins, shot in the low country north of Makassar, agree entirely with typical examples of *P. c. rufescens* from Tonkean, while skins from Bonthain Peak (Nov. Zool. III. p. 160) agree much more with *P. celebensis celebensis* from North Celebes. This is difficult to understand, for the two forms seem to be distinct, unless the differences are due to age or season, which is not probable, as the authors and I have seen large series of the northern form.

* See remarks under *Monachalcyon monachus intermedius*, described hereafter.

III. LIST OF BIRDS COLLECTED AT TAWAYA AND DONGALA, NORTH
AND SOUTH OF PALOS BAY, IN WEST CELEBES,
IN AUGUST AND SEPTEMBER 1896.

Although the species enumerated here are mostly more or less common, I thought it best to give a complete and critical list of all of them, as this must be of interest for the details of the distribution of the Celebes birds, and as it is valuable to know whether the northern or the southern forms are found north and south of Palos Bay, since we know that so many of them are different. For the localities and the nature of the country see Introduction, p. 154.

1. *Geocichla erythronota* Scf.—One *male* and two *females* from Tawaya. “Iris very deep brown; feet slaty blue; beak pale slate-colour; tip and commissure whitish; basal two-thirds of maxilla black. The same in both sexes.” The *females* before me are smaller than the *male* (wing 110—112 against 120 in the *male*), the beak shorter, but otherwise there is no material difference between the sexes. This rare thrush was originally described from Makassar.
2. *Pratincola caprata* (L.).—Old and young birds from Tawaya.
3. *Trichostoma (Turdinus) celebense* (Strickl.).—Dongala and Tawaya. “Iris dull orange; feet dark brown; beak black; mandible greyish horn-colour.” It is this *northern form*, and not *T. finschi* of South Celebes, which is found near Palos Bay.
4. *Acmonorhynchus aureolimbatus* (Wall.).—Tawaya and Dongala.
5. *Dicaeum celebicum* Müll. & Schleg.—Tawaya and Dongala.
6. *Cinnyris frenata meyeri* Hart.—From Dongala (and also from Gorontalo). The Dongala birds agree fully with typical *C. f. meyeri* Hart. (see *antea*, p. 156) from Menado.
7. *Cinnyris porphyrolaema* (Wall.).—Dongala.
8. *Aethopyga flavostriata* (Wall.).—One skin, marked ♀, in the plumage of the bird described and figured as *Ae. beccarii* by Salvadori.
9. *Antheptes maluccensis celebensis* (Shell.).—Tawaya and Dongala.
10. *Zosterops atrifrons* Wall.—Tawaya. Specimen agreeing with one from Gorontalo.
11. *Zosterops intermedia* Wall.—Specimens from Tawaya, agreeing with those of South Celebes.
12. *Cisticola exilis* (Vig. & Horsf.).—Tawaya.
13. *Munia atricapilla brunneiceps* (Wald.).—Tawaya and Dongala.

14. *Munia subcastanea* sp. nov.

Munia species *M. pallida* nominatae similis, sed abdomine subcaudalibusque brunneo-castaneis, concoloribus, pallio saturatiore, nigricantiore.

Hab. Celebes, circum sinum Palos.

Three skins, two *males* and one *female*, of a *Munia* from Dongala and Tawaya are unlike any other species. They are of the size and general appearance of *Munia pallida* Wall., but differ considerably.

Top of the head whitish, washed with pale ashy brown; interscapulium, back, wings, and wing-coverts deep ashy brown; rump and upper tail-coverts golden

maroon; rectrices deep brown, with brownish golden edges; sides of head and neck, chin, throat, and chest white, with a faint pearly greyish tinge; breast, abdomen, and under tail-coverts deep brownish chestnut, under wing-coverts a little paler. "Iris dark brown; feet blackish; beak bluish grey; commissure corneous." L. t. ca. 100 mm., a. 51—54, c. 40, t. 14, r. 9.

The skin marked "♀" is like those of the *males*, but the rump, upper tail-coverts, and edges of central rectrices lighter and more yellowish.

So little did I expect a new *Mania* at Palos Bay, that I had the skins in the Museum for several months before I paid any attention to them.

15. *Seissirostrum dubium* (Lath.)—Tawaya.
16. *Dierurus leucops* Wall.—Dongala. "Iris white; feet and beak black."
17. *Oriolus celebensis* (Wald.).—A number of orioles from Tawaya and Dongala belong to the northern form *O. celebensis celebensis*, and not to *O. c. meridionalis*. The black band is always more or less conspicuously interrupted on the nape and narrower than in *O. c. meridionalis*, in which it is broader and quite continuous.
18. *Streptocitta torquata* (Temm.).—Dongala. "Iris very dark brown; feet and beak black." Again the northern and not the southern species. The throat of the one *male* is mixed black and white. I see an occasional white feather on the throat in many specimens in the Tring Museum: but I do not know whether this is, as I think, due to immaturity.
19. *Graucobus leucopygius* Bp. ♂ ♀, Dongala. ♀. "Iris yellowish white; feet and beak black."
20. *Artamides bicolor* (Temm.).—♂ ♀, Tawaya. ♂. "Iris dark amber; feet black; bill pale blue; commissure darker." ♀. "Iris dark amber; feet blackish; bill pale blue; commissure paler."
21. *Volocivora morio* (S. Müll.).—Two adult, or nearly adult, *males* and two fully adult *females* from Tawaya. The two *females* are rufous below, narrowly barred with black from the chin to the under tail-coverts, the latter only having some narrow irregular bars at the bases, being quite uniform towards the tips; under wing-coverts narrowly barred with black. A *female* from Indrulaman (Nov. Zool. III. p. 156) (? probably immature) is very much paler below, being only in the middle of the abdomen buff or rather pale rusty rufous; the under wing-coverts with a few not very conspicuous bars: the under tail-coverts much paler than in those from Tawaya. Another specimen (marked *female*) is evidently immature, and apparently closely resembles the one described in *Abh. und Ber. Mus. Dresden*, 1896, p. 10, from South-West Celebes. *Males* from South Celebes do not seem to differ materially from northern examples, though I have not seen such a black one from the south; but that is merely a sign of age. The *males* from Tawaya do not seem to differ from northern *males*. ♂. "Iris deep chestnut; feet black, soles whitish; bill black." ♀. Bare parts as in ♂.
22. *Lalage leucopygialis* Wald.—♂ ♀, Tawaya.
23. *Hypothymis puella* (Wall.).—Several *males* from Tawaya. "Iris chestnut; feet dark blue; beak blue, tip black."
24. *Gerygone flavicola* Cab.—Dongala and Tawaya. "Iris crimson or red-brown; beak black: in one, evidently younger, bird the base of the mandible is pale." It is possible that the study of a series of good skins from Saleyer

will result in the subspecific separation of that form. While the wings of six Celebes skins before me are from 51 to 55 mm. in length (the *females* not always smaller, unless there are wrongly sexed birds among them), the wings of the two Saleyer birds (see Nov. Zool. III. p. 171) are 49 to 50 mm. long, and they are slightly paler, though this latter character is probably due to their being in old plumage.

25. *Pitta celebensis* Forsten.—Seven skins from Tawaya. Some are adult birds, some in the spotted plumage of the young, with some red feathers just appearing. “Iris of old birds very dark chestnut or deep brown, of young ones deep greyish umber; legs of a somewhat silvery grey; beak black.” I consider the interesting *P. palliceps* as merely a subspecies.
26. *Caprimulgus affinis* Horsf.—♂ in moult and ♀ from Tawaya.
27. *Cyclopsis fallax* (Schleg.).—Both sexes from Dongala and Tawaya. The *females* are of a much darker and less rufous brown above. “Iris deep brown in both sexes.”
28. *Alcedo ispida moluccana* (= *ispidoides*) (Less.).—Dongala.
29. *Pelargopsis melanorhyncha* (Temm.).—Three *males* and a *female* from Tawaya. “Iris very deep brown; feet and claws black, soles dark orange; beak black.” In some skins there is a small red spot at the base of the maxilla; but in a large series of this species there is not a specimen that approaches the recently described very interesting *P. dichrorhyncha* Mey. & Wigl. from Peling (cotypes before me), which resembles *P. melanorhyncha* very much, but has a larger and partly red beak. The sexes do not seem to differ in any way.
30. *Vittura cyanotis* (Temm.).—♂ ♀, from Tawaya. “Iris crimson; bare skin before eyes scarlet; feet dark vermilion, claws black; beak dark vermilion.”
- C. sanghirensis*, which Doherty sent from Sanghir, has the “iris purplish pink; feet scarlet, claws blackish; beak dark vermilion.”

31. *Monachaleyon monachus intermedius* subsp. nov.

A male *Monachaleyon* from Tawaya differs conspicuously from *M. monachus monachus* of North Celebes in having the head of a much deeper blue and with a distinct, though faint, greenish tinge. The tail is a little less washed with blue. It differs from *M. capucinus* Mey. & Wigl. in having the head deep blue, not black, and the tail not quite without a bluish wash. The breast and abdomen of the Tawaya bird are a shade lighter than in most *males* of *M. monachus monachus*, the beak apparently a little thicker. I have before me twelve skins of *M. monachus monachus*, but I know the type of *M. capucinus* only from the description in *Abh. und Ber. Mus. Dresden*, 1896, pp. 12, 13. Probably *M. capucinus* is also a subspecies of *M. monachus*, the *M. m. intermedius* bridging the gap over. *Antea*, p. 160, I have given the statement of Mr. Wiglesworth, who compared the *female Monachaleyon* from Makassar with his type of *M. capucinus*; but now I think that it is almost as possible that it belongs to *M. m. intermedius*, as the crown is not pure black, but very deep bluish black with a greenish tinge. It would thus seem that Celebes has (besides the very different *M. cyanocephalus**) three forms: *M. monachus monachus* with a bright blue cap in N. Celebes, *M. m. intermedius* with a deep greenish blue cap in W. Celebes, *M. m. capucinus* with a

* So called in the *Cat. B. XVII.*, though its proper name seems to be *princeps* Rehb.

black cap in E. Celebes. The type of *M. m. intermedius* has the "iris deep amber; feet reddish; claws dark; beak scarlet." Wing about 142 mm. (moulting); tail about 127; beak 50.

32. *Merops ornatus* Lath.—♂ ♀, Dongala.
33. *Penelopides exarhatus* (Temm.).—Both sexes from Tawaya. The males, when freshly moulted, have the throat and sides of the head golden yellow: but the yellow disappears in time, and thus the feathers become white, as they are described in *Cat. B.* ♂. "Iris crimson, eyelashes black, orbit bright crimson; feet black, soles ochreous; bill pale horn-colour, casque dull ferruginous." ♀. "Iris dull crimson."
34. *Lichtensteinipicus wallacci* (Tweedd.). It is this form and not the northern *M. fulvus* of which Doherty sent two pairs from Dongala. The name *Lichtensteinipicus*, although not a well-formed one, is the oldest, as it was fixed on the *Picus funebris* Valenc., and it must therefore be accepted, instead of *Microstictus* Harg.
35. *Cacomantis virescens* (Brügg.).—Tawaya.
36. *Cacomantis merulinus* (Scop.).—A very pale male from Tawaya.
37. *Pyrhocentor celebensis rufescens* Mey. & Wigl. (?).—Two skins from Dongala resemble very much the two eotypes of *P. c. rufescens* Mey. & Wigl. in the Tring Museum, though they are a little paler below, and less rufous above, where they look more like *P. c. celebensis*. When mentioning our birds from Indralaman in South Celebes, p. 160 in Nov. Zool. III., I stated that they did not belong to *P. c. rufescens*, and they were certainly more greyish above and less reddish rufous below; on the other hand, they are more rufous below than any of our Minalassa specimens. The two we received from Makassar (Doherty) are hardly different from *P. c. rufescens* at all (*antea*, p. 160). A third skin, a male, from Dongala differs considerably from any one I ever saw before. It has the hind-neck and inter-scapulium of the same rather bright though light rusty (somewhat like ochraceous buff) colour as the breast. Whether this is an accidental variety I am unable to say.
38. *Phoenicophus calorhynchus meridionalis* (Mey. & Wigl.).—One female from Dongala belongs to the southern form of this bird. In fact it is even still paler on the head than any of those from Indralaman and Makassar before me, but this is no doubt due to the very old plumage it is in. It is also rather pale on the back and breast. "Iris crimson; feet purplish black."
39. *Eudynamis melanorhyncha* S. Müll.—Two males from Tawaya and Dongala. "Iris red; feet and beak black."
40. *Tanygnathus mülleri* (Müll. & Schleg.).—Dongala, female. "Bill dirty whitish horn-colour."
41. *Cacatua sulphurea* (Gm.).—A male from Dongala and a female from Tawaya. "Iris crimson; feet and bill black."

On p. 176 in Nov. Zool. III. I mentioned that two females from Djampea had very small beaks. I now find that Celebes birds have always larger bills, and as the two females from Djampea are totally alike in the size of their beaks, I do not hesitate any longer to separate them subspecifically, calling them

Cacatua sulphurea djampeana subsp. nov.

In separating this form I have been aided by Mr. L. W. Wilesworth, the co-author of the forthcoming work on the birds of Celebes, who kindly gave me some measurements of specimens of *C. sulphurea* in the Dresden Museum.

The measurement I gave, *l.c.*, was taken in a straight line from the outer margin of the cere, where maxilla and mandible meet, to the tip. It is in the two, as I said, 24 mm., in one hardly more than 23.5. In Celebes *females* (which are considerably smaller than *males*!) this is 27 mm. The width of the mandible is about 3 or 4 mm. less in *C. s. djampeana* than in the smallest Celebes *female*: the maxilla is considerably smaller and narrower.

There are thus three closely allied subspecific forms:—

C. sulphurea sulphurea from Celebes.

C. sulphurea djampeana from Djampea, exactly like it, only with a smaller beak.

C. sulphurea parvula from the Lesser Sunda Islands, exactly like *C. sulphurea sulphurea* and of about the same dimensions, not smaller, with the beaks as a rule as powerful as in any from Celebes, but the ear-coverts paler and much less yellow.

42. *Trichoglossus ornatus* (L.).—Dongala and Tawaya. “Iris pink.”
43. *Loriculus stigmatus* (Müll. & Schleg.).—Both sexes from Tawaya and Dongala, where they must have been common. “Iris pale yellow; feet orange; claws blackish; bill black; cere pale orange.”
44. *Spilospizius trinotatus* (Bp.).—Several examples from Tawaya and Dongala, belonging distinctly to the northern form.
45. *Accipiter rhodogaster* (Schleg.).—Dongala, *male*.
46. *Astur griseiceps* Schleg.—This rare species was shot at Dongala. ♂. “Iris orange; feet ochreous, claws black; maxilla black; mandible grey; cere dull yellow.”
- 47, 48. *Osmotreron wallacei* Salvad. and *O. vernans* (L.).—Both from Tawaya and Dongala.
49. *Ptilinopus melanospilus* (Salvad.).—Tawaya and Dongala.
50. *Ptilinopus gularis* (Q. & G.).—Tawaya. “Iris orange-scarlet; feet carmine; claws pale brown; bill bright orange-ochreous.”
51. *Turtur tigrinus* (Temm.).—Dongala.
- 52, 53. *Chalcophaps stephani* Rehb. and *C. indica* (L.).—Tawaya and Dongala.
54. *Myristicivora luctuosa* (Temm.).—Dongala and Tawaya. “Iris deep brown; feet slaty blue; bill slaty blue, tip yellow.”
55. *Carpophaga paulina* (Temm.).—A pair from Dongala.
56. *Turacoena manadensis* (Quoy & Gaim.).—One pair from Dongala.
57. *Macropygia albicapilla* Bp.—A *female* and a very young bird from Dongala.
58. *Oenolimnas isabellina* (Schleg.).—Of this rare rail we received a *female*, shot at Tawaya, in September 1896. It is evidently adult. The iris was crimson; feet dark brown; bill all pale green.
59. *Amaurornis phoenicea* (Forst.).—Two young examples from Dongala.
60. *Rallina minahasa* (Wall.).—One adult *female*, Dongala, August 1896. “Iris bright orange, eyelids ochreous; feet dark grey; bill below bright green, above black, tip pale corneous.”

61. *Hypotaenidia celebensis* (Q. & G.).—Two adult *females*. Dongala and Tawaya. “ Iris scarlet : feet brownish black : bill nearly pure black.”
62. *Dendrocygna arcuata* (Horsf.).—Tawaya.
63. *Megapodius cumingi* Dillwyn.—Tawaya, old *females* and pullus.
64. *Turnix rugilatus* Wall.—Both sexes from Tawaya. The *males* are decidedly smaller than the *females*, the black borders to the throat-feathers are very narrow, the chin almost pure white, the wing-coverts have more white, the scapulars rather less, not more rust-colour. ♀ ad. “ Iris whitish : feet ochreous, joints greenish : bill ochreous.”
65. *Turnix maculosa* (Temm.) (?).—One *male* and one *female* from Dongala. The *male* is somewhat paler above, and much paler below, than an Australian one before me : the *female* has the wing about 7 mm. shorter than four Australian *females* before me, the rufous collar seems to be narrower, the back more blackish and with more rusty buff edges to the feathers. As, however, it is doubtful whether the *female* is quite adult, I am unable to decide whether these differences are of specific or subspecific value or not ; and we must await further materials before we finally decide whether the little *Turnix* from Celebes differs from the Australian *T. maculosa* (Temm.) (*Cat. B.* XXII. p. 546).

A few of the common shore birds have not been mentioned, as their occurrence was of no interest.

The list shows that the ornith of Palos Bay is chiefly a mixture of northern and southern forms, the former perhaps prevailing.
